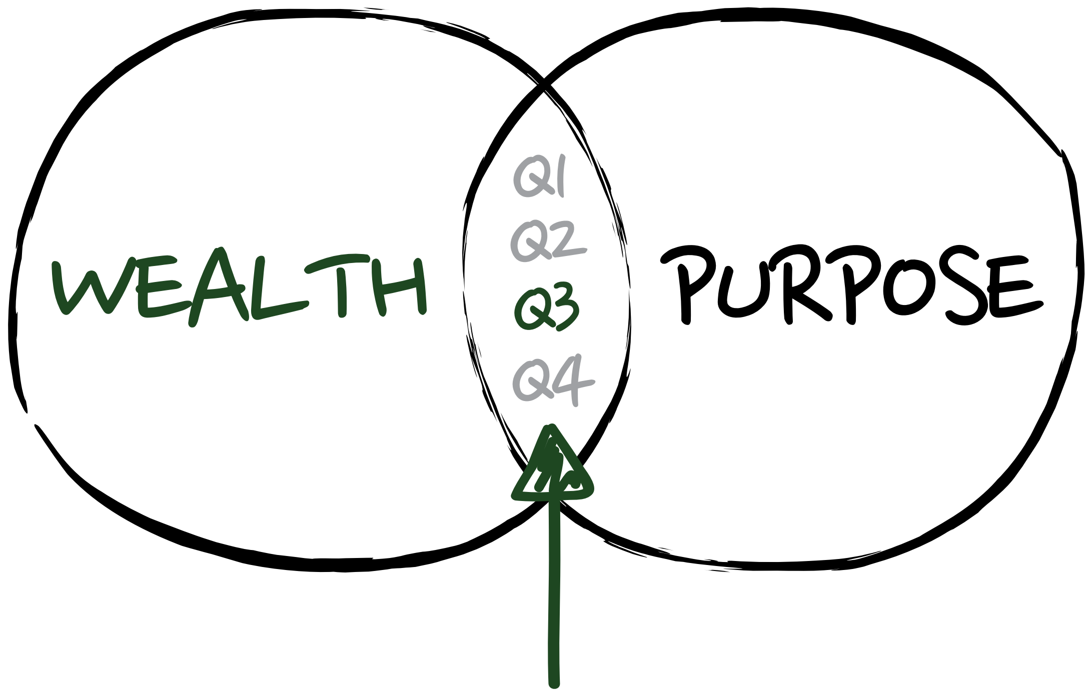

CONNECTING QUARTERLY

SEPT. 2018

Dear Friends,

With only four months left in 2018, this year has the possibility of being a historic one for the U.S. stock market. Clearly, I'm risking being labeled a "jinx", but if the positive return achieved by the S&P 500 Index through August holds for the rest of the year, it will be the first time in the index's 92-year history that it has produced a positive total return for 10 straight calendar years. Assuming the index achieves this feat, our holiday season is likely to be accompanied by fearful predictions from the financial media and market pundits hypothesizing that a market decline is "overdue". What should we think about these forecasts?

In their Nobel Prize winning work that started in the 1970s, Israeli psychologists, Amos Tversky and Daniel Kahneman recognized several mental "shortcuts" that the human mind often uses to make complex decisions[1]. Tversky and Kahneman showed that

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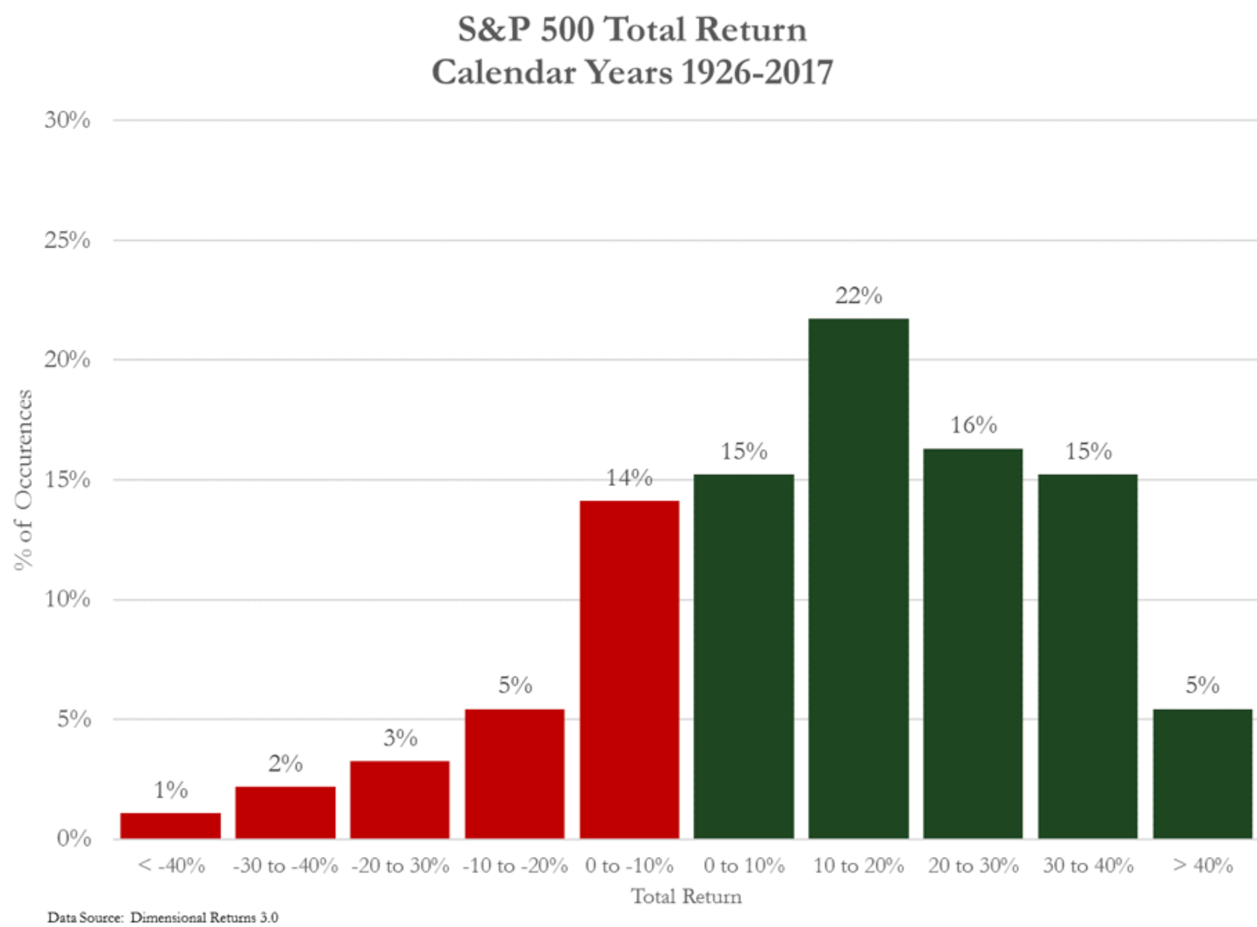
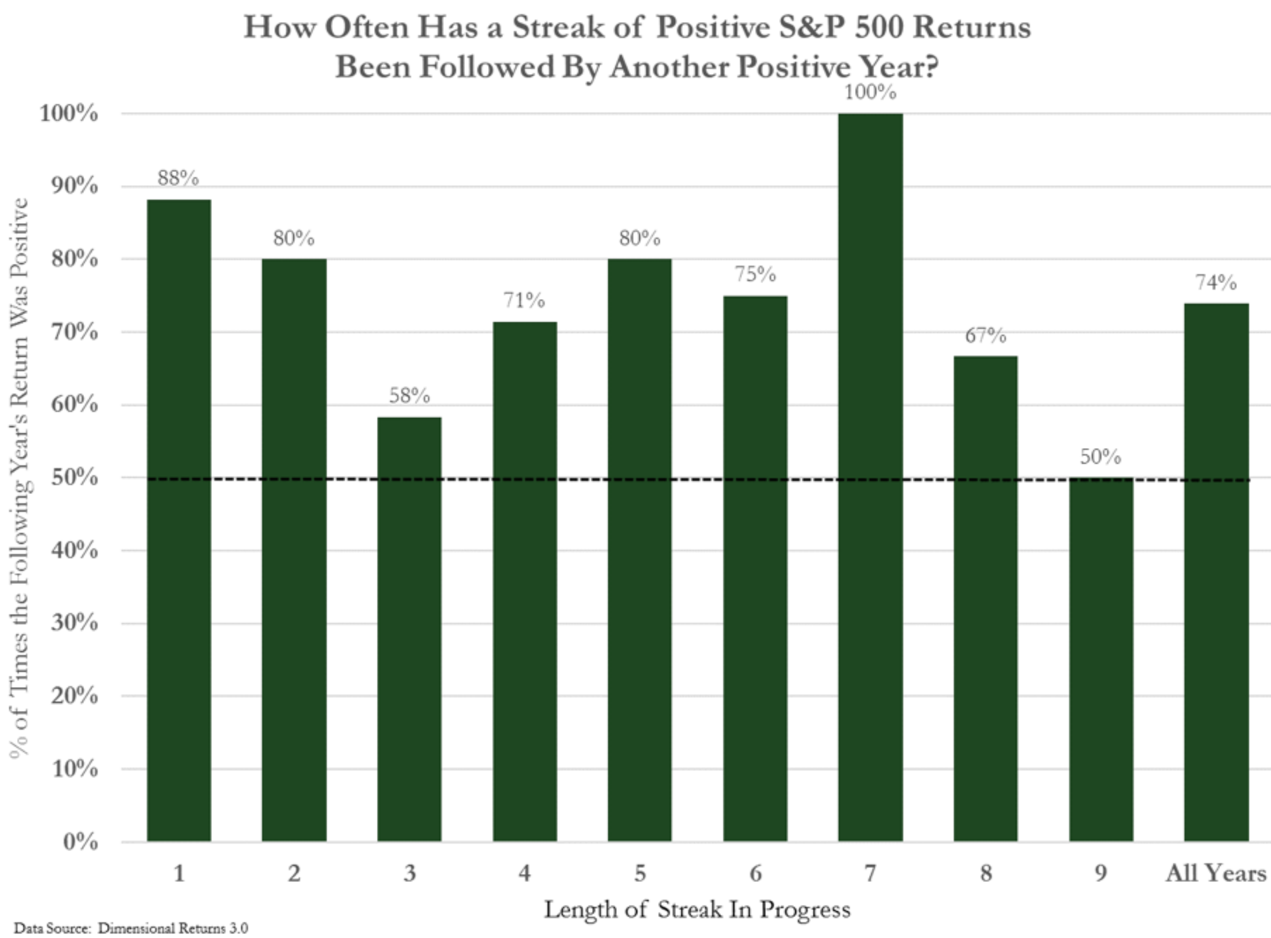
these shortcuts, formally known as "heuristics", often feel right, but lead us astray and cause us to make incorrect decisions. An example of one heuristic is the "gambler's fallacy": The mistaken belief that if something happens more frequently during a given period, it will happen less frequently in the future. If you've ever been to a casino and stood around a roulette table, you have likely seen this fallacy in action. If the roulette ball lands on black two, four, six or even eight times in a row, you often see a significant portion of gamblers betting as if the odds for the next spin favor red. Of course, the true odds of a roulette wheel are known in advance, and they do not change from spin to spin.

In the stock market, unlike a roulette wheel, it is impossible to know the true odds. We can use the S&P 500's 91+ years of history to inform us as to how we should act. For example, if we look at the calendar year returns of the S&P 500 Index from 1926-2017, we see that the index produced a positive return roughly three-quarters of the time (74% to be exact).



Based on this information, we think the odds of a positive return for S&P 500 in any given year are likely better than those of a negative return. But what about when the S&P 500 has been on a "hot streak" of multi-year positive returns? Do the odds change during a long streak such as the one we are currently experiencing? On the surface, our brains want to assume that the longer the streak has run, the more likely it is to be broken soon. To assess whether this heuristic has been true, we looked at all the historical "streaks" of the S&P 500 Index, and determined how often a winning streak of a given duration continued to the following year:



The chart above shows there is no clear relationship between the length of a streak, and the probability that it will end in the next year. For example, when the S&P 500 has experienced a two-year positive streak, 80% of the third years were positive. When the streak extends to five years, the historical likelihood of a positive sixth year is the same, 80%. While there are obviously fewer observations of longer streaks (we've only seen a nine-year streak twice in history), the data suggests to us that investors shouldn't view the stock market's "odds" any differently today than if the streak was only one year old.

As investors, we are surrounded by media and marketing forces that are incented to get us to see patterns where they simply don't exist. No matter what the returns of the past year or past 10 years have been, long-term data tells us the "odds" of positive stock market returns are always favorable. But, it is important to recognize that odds are not the same as outcomes. No one knows the future, and investors should expect some short-term disappointments, even when following a strategy that has the historical odds in its favor. We believe those who can view short-term stock market declines in this context will be rewarded for their fortitude over the long run.

As always, we welcome any questions you may have.

Sincerely,

Chuck Carroll, CFA, CAIA
Chief Investment Officer
TFO Phoenix, Inc.

[1] Tversky and Kahneman, "Judgment Under Uncertainty: Heuristics and Biases", Science, Sept. 27, 1974.

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